

Some Additional New Species of Heteroptera from the Southern United States, with Characterization of a New Genus.

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Since the appearance of my former paper entitled "Some Apparently New Heteroptera from Florida,"¹ I have continued the work on my Manual of Heteroptera and have found among the material examined examples of five additional species which are apparently new to Science. Two of these belong to genera not hitherto known to be represented in the eastern United States, while a third represents a new genus which is characterized below. Unless otherwise stated the types of the new species are in the collection of the author.

Family LYGAEIDAE.

Ischnodemus pusillus sp. nov.

Brachypterous form: Elongate, very slender. Body wholly black, thickly clothed with very fine silvery-gray pubescence, the head and pronotum with a bluish tinge; pronotum with a velvety black bar across the basal fourth; antennae and legs pale brownish-yellow, the apical joint of former piceous-black; beak dark brown, the basal joint paler; elytra represented by small white pads without dark veins but with an oblique black spot behind the middle.

Antennae about as long as head and pronotum united, joint 1 not passing tip of tylus, 2 and 3 slender, the latter slightly the shorter, 4 fusiform, one-half longer and much stouter than either. Beak reaching middle coxae. Pronotum subquadrate, its disk nearly evenly convex, finely, evenly and sparsely punctate, without either transverse or longitudinal impression, its sides parallel from base to middle, rounded and converging near apex. Scutellum small, flat, impunctate. Elytra reaching only to base of second dorsal, their tips narrowly rounded and separated by a space nearly equal to their width, their inner margins oblique. Length 3—3.3 mm.

Dunedin, Florida, February 18; three brachypterous specimens sifted from the roots of tufts of grass in low moist grounds. It is our smallest and blackest species, easily known by the subquadrate, evenly convex pronotum with black basal

¹ Entomological News, March, 1924, pp. 85-90.

cross-bar, large piceous apical antennal and small white elytral pads.

Type a male taken at Dunedin, Florida, February 18, 1924.

Family EMESIDAE.

Genus **Malacopus** Stal.

"Stal in his "Bidrag till Rio Janeiro-Trakeus Hemipter Fauna,"² founded this genus, the principal characters of which are as follows:

Head declivent behind, wider across the eyes than long, its hind portion with sides strongly converging from the eyes backward; eyes very prominent, coarsely granulated; beak with two basal joints strongly swollen; antennae and legs with numerous long erect hairs, the first antennal surpassing base of mesonotum. Pronotum quadrate, not fused with mesonotum; the latter with front declivent, its sides feebly converging from base to apex, their margins not carinate, hind margin concave. Scutellum divided into two obtusely triangular parts, the front one the shorter, the apex of each with a short spine. Elytra surpassing abdomen by one-fourth their length, gradually widened from base to apex, the inner apical margin widely and shallowly obliquely concave. Front coxae half the length of femora; trochanters unarmed; front femora armed beneath their full length with very numerous short black-tipped spines; front tibiae three-fourths the length of femora.

The generic type of Stal was his *M. cellularis* described from Rio Janeiro. A second species, apparently hitherto undescribed, occurs in southern Florida. It varies from Stal's generic characterization only in having the vertex of head armed with two small obtuse tubercles, instead of "inermi, tumescente," as stated by him.

Malacopus longicornis sp. nov.

Elongate, robust for the family. Head and pronotum fuscous-brown, the former with one, the latter with three, pale stripes; mesonotum dull yellow; scutellum dark brown; elytra pale brown, the margins, main nerves and all the nervures pale yellow; under surface piceous-brown, the genital segments paler; antennae and legs pale yellow, annulated with pale brown.

² Kongliga Svenska Vetenskaps-Akademiens Handlingar, Pt. I, Vol. II, 1860, 80.

Hind lobe of head with an obtuse tubercle each side; antennae with joint 2 slightly longer than 1, 3 one-fourth as long as 2, twice as long as four. Disk of mesonotum with two obtuse tubercles on basal third. Front scutellar spine strongly inclined backward, hind one erect. Genital plate of male small, scoop-shaped. Length 10—11 mm.

Cape Sable and Key West Florida, February 23-March 1. Five specimens were taken by beating in dense hammocks along the margins of tide-water lagoons. *Type* a male from Cape Sable, Florida, February 26, 1919.

Family ANTHOCORIDAE.

Subfamily *Dufouriellinae*.

Genus **Physopleurella** Reuter.

This genus was founded³ by Reuter for a single species, the *Cardiasthethus mundulus* White, from Hawaii. I have at hand examples of an apparently undescribed species taken in Florida which agree in all but a few minor respects with the generic characters as given by Reuter, which are substantially as follows:

Head distinctly longer than the width across eyes, the projecting tylus shorter and narrower than interocular width; eyes prominent, occupying the full thickness of the head; beak shorter than head, its second joint subulate, scarcely reaching middle of eyes. Pronotum with hind margin deeply and widely sinuate or concave; disk with preapical transverse impression fine but evident; median transverse impression ill defined, the area in front of it with callus but little elevated, and with a short posterior longitudinal median groove; hind portion depressed at middle. Elytra entire, the membrane 4-veined, the three outer veins with bases remote and equidistant one from the other, the inner one with base forked, enclosing a small triangle. Osteolar channel surpassing middle of metasternal plate, its apical portion curved backward. Front femora in our species more evidently swollen than the others, with the lower inner margins beset with numerous fine setae; front tibiae distinctly curved. Mesopleurae strongly rugose.

Physopleurella floridana sp. nov.

Elongate-oblong, subparallel, pubescent. Head, front lobe of pronotum, scutellum and under surface pale to dark reddish-

³ "Monographia Anthocoridarum Orbis Terrestris." Actorum Societatis Scientiarum Fennicae, XIV, 1884, 124.

brown, strongly shining; hind lobe of pronotum with the basal margin and humeral angles fuscous-brown; elytra, except membrane, dull straw-yellow with the cuneus and a more or less evident cross-bar across the apical third of clavus and corium fuscous; membrane whitish-hyaline, the basal half tinged with dusky; antennae, beak and legs pale brownish-yellow.

Joint 1 of antennae slightly surpassing the truncate tip of tylus, 2 linear, about as long as head, 3 and 4 more slender, subequal, together slightly longer than 2. Pronotum as above described, its sides obtusely margined, the deeply concave hind margin with a fringe of yellowish hair; disk with a short ridge each side of middle connecting the two lobes, the hind lobe depressed and punctate at middle, its humeral angles broad, obtusely rounded. Scutellum with basal portion less elevated than usual, apical portion flattened, with a bilobed fovea at base, apex acute. Elytra but slightly surpassing abdomen, clavus finely irregularly punctate, corium and embolium very minutely punctate, all the punctures each bearing a short, fine appressed hair. Genital plate of male transverse, its hind margin broadly rounded. Length 2.8-3 mm.

Dunedin and Royal Palm Park, Florida, March 5-April 3; three specimens beaten from dead leaves of the cabbage palmetto. The short subulate beak, setose front femora, curved front tibiae and peculiar sculpture of pronotum distinguish this from any of our known eastern species of the subfamily.

Type a male taken at Dunedin, Florida, April 3, 1923.

Family VELIIDAE.

Genus *Microvelia* Westwood.

Among some specimens of aquatic Heteroptera received for study from C. S. Brimley, of Raleigh, North Carolina, were examples of a *Microvelia* which differs from any of our known species in a number of particulars, and is therefore described as follows:

Microvelia parallela sp. nov.

Brachypterous form: Elongate-oblong, sides parallel or nearly so. Color a nearly uniform dark brown, clothed with very fine appressed grayish hairs; front margin of pronotum reddish-brown; antennae fuscous-brown, the second joint sometimes paler; legs brownish-yellow, tinged with fuscous, the front femora wholly yellow; abdomen without spots of silvery pubescence.

Head strongly convex, its median impressed line distinct. Antennae relatively stout, subequal in length to head and thorax united; joints 2, 3 and 4 almost subequal in length, 1 shortest, 3 most slender, 4 fusiform, slightly longer than 3, but little more than half as long as width of interocular area. Pronotum subquadrate, about one-third wider than long, front margin truncate, hind one very slightly rounded; disk with reddish front margin smooth, remainder distinctly punctate and with an entire longitudinal median carina. Mesonotum concealed; metanotal triangles very small. Hind tibiae straight in both sexes. Abdomen with sides subparallel, the connexiva wide, subvertical, male; distinctly narrowed behind with connexiva strongly reflexed against the dorsum, female; last three dorsals with a fine longitudinal median impressed line. Length 1.5-1.8 mm.

Type, a male taken at Raleigh, North Carolina, May 22; *allotype*, same place and date; both in the collection of the Division of Entomology, North Carolina Department of Agriculture. The small size, parallel body, uniform brown color, short subequal joints of antennae and strongly reflexed connexiva of female, readily distinguish this from all our other species. It is apparently most closely related to *M. hinei* Drake, but in that species the mesonotum is visible and the fourth antennal is more than twice as long as second, and but little shorter than the interocular width.

Family GELASTOCORIDAE.

Subfamily *Nerthrinae*.

Since 1911 I have had in my collection a species of Gelastocoridae from Arch Creek, Florida, under the name of *Nerthra stygica* Say, it having been so determined for me by E. P. Van Duzee. In March, 1923, I took near Dunedin, Florida, examples of a second and somewhat similar member of the same family. When I came to study these critically, in connection with Say's original description and Bueno's excellent paper on *Nerthra stygica*,⁴ I soon found that my Dunedin specimens were the true *N. stygica* and that the other was an apparently unnamed species possessing characters of generic importance which differ from those of any defined genus of

⁴Ohio Naturalist, V, 1905, 287.

the family. I therefore found for it the genus *Glossoaspis*⁵ as characterized below. The relationship of this genus to the other North American genera of the family may be readily determined by the following key:

*Key to North American Subfamilies and Genera of
Gelastocoridae.*

- a. Elytra not wholly coriaceous, the corium, clavus and membrane distinct, the membranes overlapping.
 - b. Front tarsus of adults with two claws; eyes very prominent, subpedunculate (subfamily Gelastocorinae).
Gelastocoris Kirkaldy.
 - bb. Front tarsus of adults with a single claw; eyes much less prominent, sessile (subfamily Mononychinae).
Mononyx Laporte.
- aa. Elytra wholly coriaceous, meeting in a straight sutural line, the corium and clavus not differentiated, the membrane wanting; eyes reniform, sessile; front tarsus of adult with a single claw (subfamily Nerthrinae).
 - c. Elytra not soldered together along the median line, their suture distinct and disk without lines of elevations; scutellum with basal portion very short and broad, apical portion strongly narrowed to form a tongue-like wedge between the bases of elytra; margins of abdomen coarsely crenate. *Glossoaspis* gen. nov.
 - cc. Elytra soldered together along the median line, their suture indistinct and disk roughened with oblique lines of short acute elevations; scutellum broadly triangular, fused with elytra, its apex obtuse; margins of abdomen entire. *Nerthra* Say.

***Glossoaspis* gen. nov.**

Head immersed in thorax to eyes, vertex very short, front vertical, the front of body therefore appearing as if truncate or squarely cut off; eyes small, reniform; ocelli distinct, each set on a small interocular tubercle. Pronotum short, very broad, the disk with median portion convex, uneven; sides strongly flattened. Elytra wholly coriaceous, closely united along a median straight line, their usual divisions wanting, the costal margins expanded near base to form a short broadly rounded lobe. Scutellum with basal portion very short, nearly

⁵ From the Greek *glosso* "tongue" and *aspis* "shield," referring to the peculiar tongue-like apical half of the scutellum.

one-half as wide as pronotum, separated from the much narrower apical portion by a sinuate transverse groove, the apical portion forming a tongue-like wedge between the bases of elytra, its apex narrowly rounded. Front legs short, femora very stout, beneath broadly and shallowly grooved, the front margin of groove evenly widened throughout its length and armed with a row of numerous close-set, very short denticles, the hind margin of groove scarcely raised; front tibiae slender, cylindrical, feebly curved, the tarsal joint very short, the long curved acute single claw appearing as if united to the end of tibia. Middle and hind legs slender, each with two tarsal claws; middle tarsi 1-jointed, hind tarsi 3-jointed, the third joint as long as the others united. Meso- and metasterna each with an erect tubercle which is compressed or laminate on three sides at base.

The generic type and only known species is

***Glossoaspis brunnea* sp. nov.**

Subquadrate, broadly rounded behind. Color above a nearly uniform dark brown, when living coated with an earthy incrustation; sides of pronotum, apical portion of scutellum, tubercles of elytra and posterior half of each connexival dull yellow; sterna and femora in great part dull yellow; abdomen, tibiae and tarsi dull fuscous-brown, the posterior apical angle of each ventral paler.

Beak concealed beneath the strongly deflexed head, its apex visible between the front coxae. Pronotum two and a half times as wide as long, its transverse impression placed very close to base; side margins straight and subparallel, rounded into base, the apical angles obtuse, slightly prolonged; hind margin trisinuate; disk with sides broadly flattened, median portion with a transverse convexity formed of four broad obtuse tubercles separated by wide shallow grooves, the two median tubercles much the larger. Elytra at base slightly narrower than pronotum, conjointly oval, reaching tip of abdomen, disk of each distinctly not strongly concave, not punctate and without setae, each with a short oblong tubercle at middle of base, a larger obtuse one at middle and a third much smaller, close to suture at apical fourth. Connexivum rather broadly exposed behind the subbasal lobe of elytra, its margin coarsely crenate. Apex of front trochanters forming a short bifid tooth. Genital plate of male concealed beneath the sixth ventral. Other structural characters as above given. Length 8.2 mm.; width 5 mm.

Type a single male taken March 21, 1911, from the muddy

margins of Arch Creek, Florida. This is probably the *Mononyx stygicus* of Uhler,⁶ nec Say, and the *Nerthra stygica* Say of Howard,⁷ but, as pointed out by Bueno (loc. cit.), it is not Say's species. If it is the form so treated by Uhler and Howard, Bueno is in error in supposing that it is "either *Mononyx fuscipes* Guer. or *M. ncpaeformis* (Fabr.)," as those two species are both true members of *Mononyx*, having the elytral membrane present and overlapping.

The Anal Lobe of *Pseudococcus comstocki* Kuw. (Homop. : Coccidae).

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In his study of California mealy bugs Ferris (1918) pointed out the value of the cerarii in generic and specific determinations. But there are variations in the cerarii, especially the anal lobe cerarii of certain species of *Pseudococcus*, which may make specific identification rather difficult for anyone except a specialist who has abundant material for comparison. The writer has in mind particularly the two most widely known outdoor species in eastern United States, *Pseudococcus comstocki* Kuw. and *Pseudococcus maritimus* Ehrh.¹

During the past two years the former species was the subject of a rather extensive biological investigation in Northern Virginia, where it became a pest on the umbrella catalpa (*Catalpa bungei*), and in the course of these studies certain variations in the chitinization of the anal lobe were noticed to be quite frequent.

Figs. A to E, inclusive (the large letter indicates the dorsal aspect and the small letter the ventral aspect of the same lobe), show a range of variations in the chitinization of the anal lobe of *Pseudococcus comstocki* from what may be considered the typical form (Fig. A) to forms (Figs. D and E) which may be confused with a figure or description of the anal lobe of

⁶ Standard Natural History, II, 1884, 264.

⁷ The Insect Book, 1902, pl. XXXIX, fig. 16.

¹ Thanks are due Dr. C. H. Kennedy, of Ohio State University, for helpful suggestions in morphological studies of this insect.